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PROLONGED SCAVENGING BY A FEMALE MOUNTAIN LION IN NORTHEASTERN OREGON

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Reports of scavenging by mountain lions (*Puma concolor*) are uncommon (Anderson 1983; Beier and Barrett 1993; Logan and others 1996; Murphy 1998). Anderson (1983) noted that of 32 studies he reviewed, only 4 included carrion among identified food items. The rarity of documented scavenging has contributed to the common belief that mountain lions eat only prey they have killed themselves (Logan and others 1996). Beier and Barrett (1993) and Murphy (1998) each reported a single case of scavenging by mountain lions during 5-yr and 9-yr studies, respectively. Ross and Jalkotzy (1996) documented 4 instances of scavenging by mountain lions on individual moose carcasses during a 13-yr study. Logan and others (1996) reported 15 cases of scavenging by mountain lions during the course of a 10-yr study in New Mexico. Logan and others (1996) and Beier and Barrett (1993) also noted that mountain lions treated some carrion much like prey including moving the carcass to vegetative cover and covering the carcass between feeding bouts. These uses of carrion by mountain lions reported in the literature have been limited to single, isolated incidents where 1 carcass was utilized. We documented a period of prolonged carrion feeding by an adult female mountain lion in northeastern Oregon while conducting a 2-yr study of mountain lion predation rates (Nowak 1999).

We used daily, ground radio telemetry to monitor focal mountain lions during predation sequences from June 1996 through June 1998. A predation sequence was a period of 25 days during which each focal mountain lion was located every day in an attempt to document every kill that animal made. The study took place in the western Wallowa Mountains of northeastern Oregon. The area has many roads and is easily accessible. During the study, an adult female (F85) utilized a home range near the town of Cove (45°18′30″N, 117°48′W) and was a successful predator of mule deer (*Odocoileus hemionus*). For 22 days in December 1997, F85 made no ungulate kills but fed, instead, from 4 different sources of carrion. She was an adult

in apparently good health and had recently dispersed a litter of 3 kittens.

F85 was located in a different area on each of 8 consecutive days beginning on 1 December 1997. We searched all telemetry locations the day after their occupation by the lion but were unable to find any sign of mountain lion presence or feeding until snow fell on 5 December. We were then able to find and follow tracks from telemetry locations and document bed sites used by F85. On the 9th day of the sequence, F85 was located within 100 m of the 1st carrion site. The following day she remained in the vicinity, and we were able to follow her tracks to her bed from the night before and the carrion upon which she had been feeding. The site contained the remains of 4 hunter-killed elk (*Cervus elaphus*) that had been dumped over the bank and lay 2 m from the road. Numerous mountain lion tracks to and from the night bed and telemetry locations (day beds) as well as mountain lion scats indicated concentrated use of the area by F85. She remained near this site for 4 days, and 1 or more of the carcasses bore evidence of feeding each day.

On 13 December, F85 was located approximately 3 km from the 1st carrion site and her tracks had been joined by those of another, unmarked, mountain lion. The following day, both animals had moved another 2.5 km. We found the tracks of these 2 animals near the telemetry location and followed them backward to the 2nd carrion site. This site contained the head and neck of a single hunter-killed elk. Both the head and neck bore evidence of recent feeding. Both animals left the area that night.

On 15 December, F85 moved during the day, accompanied by the 2nd animal. Both animals visited the 3rd carrion site that night as indicated by tracking on 16 December. This site contained the carcass of a lion-killed mule deer. Carcass condition and field sign indicated the prey had been killed about 9 days earlier. At that time, F85 was approximately 11 km away and it is highly unlikely that she was involved in the kill. It is, however, possible that the kill was made by the 2nd animal, with which she visited the site. The carcass showed evidence of recent feeding on the lower limbs although there was apparently not much edible tissue left.

The 2nd mountain lion went its own way after visiting the old kill and F85 was again traveling alone on 17 December. On 18 December, she was located at the 4th carrion site. She remained at the site through 21 December. This site contained the remains of at least 3 hunter-killed elk dumped in plastic trash bags 2 to 4 m from the road. More may have been buried beneath the snow. The heads, with some neck vertebrae attached, of 2 elk had been moved under large ponderosa pines (*Pinus ponderosa*) and covered with needles. One of these had evidence of recent feeding. There were numerous mountain lion tracks, scats, and beds in the area of this site as well as the tracks of coyote (*Canis latrans*) and bobcat (*Lynx rufus*). Daily monitoring of F85 ended 22 December; we were unable to document her subsequent feeding behavior.

The behavior of F85 at the 1st and 4th carrion sites was much like the behavior of a mountain lion at a kill: she remained nearby for several days, she bedded near the carcass especially at night, and she moved portions of the carcasses and covered them with needles and duff; scats deposited in the area were carefully covered. The 2nd and 3rd carrion sites offered only enough edible tissue for a single feeding and she did not linger near them or exhibit any kill-site behaviors.

Use of carrion by mountain lions may reduce their rate of predation on ungulates by providing a temporary food source that makes hunting unnecessary for a period of time. This may be only a seasonal benefit as other scavengers and spoilage may preclude mountain lions from feeding on carrion during summer and fall. Also, 3 of the 4 sources of carrion utilized by F85 were provided by humans as a result of late fall elk hunting. At this time most of the area's black bears (*Ursus americanus*) were in their winter dens. Deer and elk carcasses from earlier hunting seasons would likely be consumed by bears building their winter fat reserves (Verts and Carraway 1998), and mountain lions would have little opportunity to scavenge them. Any consideration of mountain lion predation rates should acknowledge the temporal variation brought about by factors such as scavenging as well as variation based on individual energetic requirements.

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